

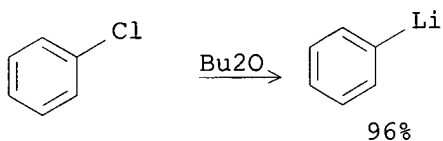
L6 ANSWER 12 OF 59 CASREACT COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 118:102236 CASREACT <<LOGINID::20080513>>  
 TITLE: Preparation of aryllithiums in C6 dialkyl ether  
 solvents  
 INVENTOR(S): Morrison, Robert Charles  
 PATENT ASSIGNEE(S): FMC Corp., USA  
 SOURCE: PCT Int. Appl., 21 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9219622	A1	19921112	WO 1992-US1208	19920214
W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MW, NO, RO, RU, SD				
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GN, GR, IT, LU, MC, ML, MR, NL, SE, SN, TD, TG				
AU 9219262	A	19921221	AU 1992-19262	19920214
PRIORITY APPLN. INFO.:			US 1991-692438	19910429
			WO 1992-US1208	19920214

OTHER SOURCE(S): MARPAT 118:102236

AB Thermally stable solns. of aryllithium compds. were prepared by reaction of Li dispersions with monohaloaryl compds. in solvents ROR1 (R, R1 = C3-8 alkyl; ≥6 carbons total) with a molar ratio of ether/monohaloaryl compound of ≥1.5 at a temperature of 5-65°. Thus, 1 equiv PhCl was added dropwise to a stirred slurry of Li in 1.8 equiv BuOBu followed by a postreaction period and filtration to give a .apprx.25% solution of PhLi which was stable for ≥40 days at 20-22°.

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NOTE: product has improved stability in this solvent

L6 ANSWER 8 OF 59 CASREACT COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 127:5187 CASREACT <<LOGINID::20080513>>  
 TITLE: Preparation of aryllithium in ether solutions using  
 Lewis bases  
 INVENTOR(S): Schwindeman, James A.; Sutton, Douglas E.; Morrison,  
 Robert C.; Stryker, Sonia S.  
 PATENT ASSIGNEE(S): FMC Corp., USA  
 SOURCE: U.S., 4 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

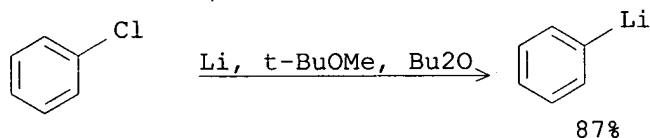
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5626798	A	19970506	US 1996-587813	19960105
WO 9725334	A1	19970717	WO 1996-US7624	19960524
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9658036	A	19970801	AU 1996-58036	19960524
DE 19681729	T0	19981217	DE 1996-19681729	19960524
DE 19681729	C2	20001116		

PRIORITY APPLN. INFO.:  
 US 1996-587813 19960105  
 WO 1996-US7624 19960524

OTHER SOURCE(S): MARPAT 127:5187

AB An improved process for producing high purity solns. of aryllithium compds. and the product solns. are claimed. The process comprises reacting a particulate alkali metal having a particle size of 10-300  $\mu$ m, with an aryl halide in a normally liquid ethereal solvent ROR1, wherein R and R1 are selected from the group of alkyl radicals containing from 3 to 6 C atoms, in the presence of a Lewis base selected from compds. of the formula: R2AR3(R4)z and cyclic -(CR5R6)y-(A(R4)z)- wherein A is selected from O, N, P or S; R2, R3, and R4 are selected from alkyl radicals containing from 1 to 6 C atoms; R5 and R6 are independently selected from H or alkyl radicals containing one to six C atoms; y = 4 to 6; but when A is O or S, z = 0; and when A is N or P, z = 1, and provided there is a mole ratio of ether to aryl halide of at least 1.3 to 1 and a mole ratio of Lewis base to aryl halide of from 0.01 to 0.5. For example, to a reaction flask containing 1.25 mol Li powder and 0.94 mol Bu2O was added, dropwise, over a period of 60 min, a solution of 0.52 mol PhCl and 0.052 mol MeOtBu, while maintaining the reaction temperature at 30-35°; the yield of PhLi was 87.4%. If no MeOtBu was present, the yield was 80.8% and the reaction was slower (16% PhCl remaining after 120 min vs. 6%).

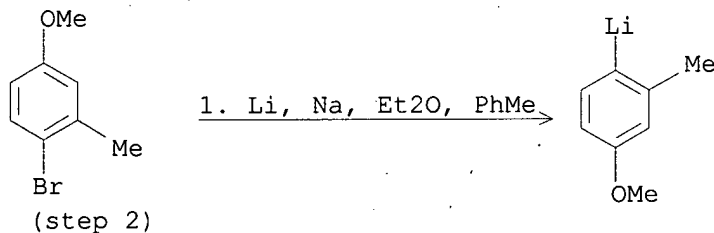
RX(1) OF 1



L6 ANSWER 10 OF 59 CASREACT COPYRIGHT 2008 ACS on STN  
ACCESSION NUMBER: 123:228304 CASREACT <<LOGINID::20080513>>  
TITLE: An efficient procedure for the synthesis of C-chiral  
bisphosphines  
AUTHOR(S): McKinstry, Lydia; Livinghouse, Tom  
CORPORATE SOURCE: Dep. Chem. Biochem., Montana State Univ., Bozeman, MT,  
59717, USA  
SOURCE: Tetrahedron (1995), 51(28), 7655-66  
CODEN: TETRAB; ISSN: 0040-4020  
PUBLISHER: Pergamon  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB A practical method for the synthesis of bisphosphines containing homochiral C  
backbones, e.g., (2R,4R)-2,4-bis(dicyclohexylphosphino)pentane, is  
described. This procedure entails sequential reaction of a homochiral  
ditosylate, e.g., (2S,4S)-2,4-pentanediol di-p-toluenesulfonate, with the  
appropriate dialkyl- or diarylphosphine-borane anion, e.g.,  $R_2P \cdot BH_3^-$   
 $Li^+$  (e.g., R = cyclohexyl, Ph) followed by  $BH_3$  decomplexation  
mediated by  $HBF_4 \cdot OMe_2$ .

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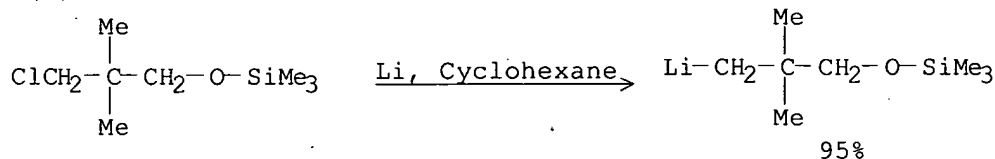
L4 ANSWER 5 OF 6 CASREACT COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 123:112396 CASREACT <<LOGINID::20080512>>  
 TITLE: Process of preparing trimethylsilyloxy functionalized  
 alkylolithium compounds  
 INVENTOR(S): Schwindeman, James A.  
 PATENT ASSIGNEE(S): FMC Corp., USA  
 SOURCE: U.S., 5 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5403946	A	19950404	US 1994-279721	19940725
US 5543540	A	19960806	US 1994-341822	19941121
WO 9603408	A1	19960208	WO 1995-US9256	19950724
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9531410	A	19960222	AU 1995-31410	19950724
EP 800525	A1	19971015	EP 1995-927358	19950724
EP 800525	B1	20030409		
R: DE, FR, GB, NL				
JP 10504813	T	19980512	JP 1996-505889	19950724
US 5912378	A	19990615	US 1997-851324	19970505

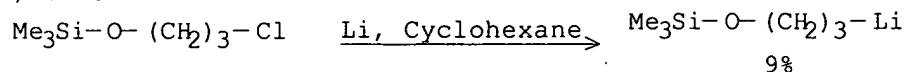
PRIORITY APPLN. INFO.:  
 US 1994-279721 19940725  
 US 1994-341822 19941121  
 WO 1995-US9256 19950724  
 US 1996-637192 19960408

OTHER SOURCE(S): MARPAT 123:112396  
 AB A process for producing compds. of the formula  $\text{Me}_3\text{SiORLi}$  ( $\text{R} = \text{C}_2\text{-10 alkyl, C}_6\text{-10 aryl}$ ) by reacting haloalc.  $\text{HORX}$  ( $\text{R} = \text{same, X} = \text{Cl, Br}$ ) with hexamethyldisilazane, in an inert atmospheric in hydrocarbon solvent, at a temperature between  $20^\circ$  and reflux temperature of the solvent followed by lithiation with powdered lithium metal, is described. Thus, reaction of 3-chloro-2,2-dimethyl-1-propanol with hexamethyldisilazane in cyclohexane gave 3-chloro-2,2-dimethyl-1-trimethylsiloxypropane which on lithiation with lithium dispersion gave title compound, 3-chloro-2,2-dimethyl-1-trimethylsiloxypropyllithium.

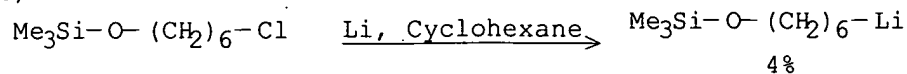
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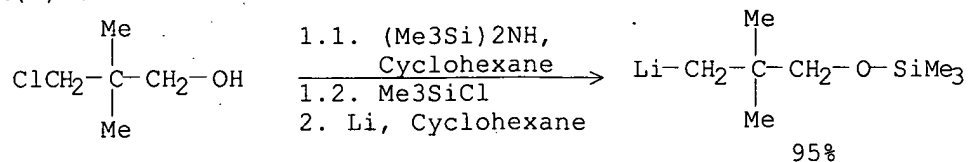
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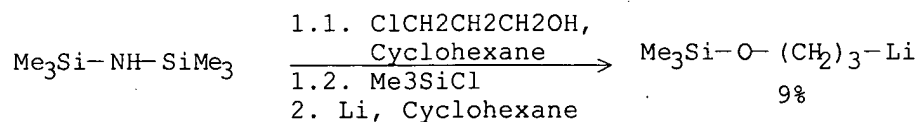


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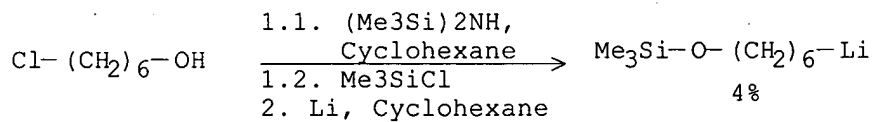
NOTE: 1) TMS-CL ADDED IN TWO BATCHES WITH HEATING BETWEEN ADDITIONS

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NOTE: 1) TMS-CL ADDED IN TWO BATCHES WITH HEATING BETWEEN ADDITIONS

RX(9) OF 9 - 2 STEPS



NOTE: 1) TMS-CL ADDED IN TWO BATCHES WITH HEATING BETWEEN ADDITIONS

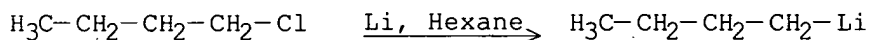
L4 ANSWER 3 OF 6 CASREACT COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 136:232391 CASREACT <<LOGINID::20080512>>  
 TITLE: Chemical process and plant for n-butyl lithium  
 manufacture  
 INVENTOR(S): Buckley, Glyn Jeffrey; Stairmand, John William; Bowe,  
 Michael Joseph  
 PATENT ASSIGNEE(S): Accentus PLC, UK  
 SOURCE: PCT Int. Appl., 15 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002020151	A1	20020314	WO 2001-GB3982	20010905
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2001084277	A	20020322	AU 2001-84277	20010905
EP 1320413	A1	20030625	EP 2001-963247	20010905
EP 1320413	B1	20060405		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2004508171	T	20040318	JP 2002-524623	20010905
US 20030168330	A1	20030911	US 2003-343786	20030204
US 6841095	B2	20050111		

PRIORITY APPLN. INFO.: GB 2000-22016 20000908  
 WO 2001-GB3982 20010905

AB A chemical plant for performing a chemical reaction between particles of a material such as lithium metal, and a reagent such as Bu chloride in solution in hexane, in which one reaction product is a solid material, includes a reaction vessel. Several ultrasonic transducers are attached to a wall of the vessel to irradiate ultrasonic waves into the vessel, the vessel being large enough that each transducer irradiates into fluid at least 0.1 m thick, each transducer irradiating no >3 W/cm<sup>2</sup>, and the transducers being sufficiently close to each other and the number of transducers being sufficiently high that the power dissipation within the vessel is at least 10 W/L but no >200 W/L. The high intensity of ultrasound ensures that lithium chloride is cleaned off the surface of the lithium metal particles throughout the vessel.

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NOTE: ultrasound, industrial scale, ultrasound is used to break the byproduct lithium chloride off of the lithium metal

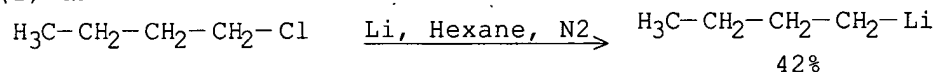
L4 ANSWER 4 OF 6 CASREACT COPYRIGHT 2008 ACS on STN  
 ACCESSION NUMBER: 129:149087 CASREACT <<LOGINID::20080512>>  
 TITLE: Preparation of alkylolithiums  
 INVENTOR(S): Iwao, Tetsuya; Yamamura, Kiyoshi  
 PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan; Mitsui Chemicals Inc.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10182658	A	19980707	JP 1996-345795	19961225
JP 3570835	B2	20040929		

PRIORITY APPLN. INFO.: JP 1996-345795 19961225

AB Alkylolithiums are prepared by reaction of alkyl halides with Li containing  $\leq 500$  ppm N. BuCl was reacted with Li containing 160 ppm N in hexane at room temperature for 30-40 min, then filtered for 1 min to give 42% BuLi.

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NOTE: room temp. 30-40 min